Roll No.

(34)

IET, Dr. Shakuntala Misra National Rehabilitation University, Lucknow,
Department of Applied Science and humanities
Sessional Test – 1

Sem & Year: 2nd SEM (1st Year) | Session: 2023-24
Subject: Engineering Chemistry | Code: TBS 203
Duration: 90 Minutes | Max. Marks: 20

Part A

Attempt all questions (1×4=4 Marks)

1. A commonly used pentavalent material is:

a) Ga b) Si c) Al d) Sb

2. Value of 10 degree french in degree clark is

a) 0.7 b) 0.07 c) 0.007 d) 7.0

3. F- Centre developed in case of

a) Anion vacancy b) cation vacancy

c) Schottky defect d) Impurity defect

4. Temporary and Permanent hardness of a water sample having 50 ppm CaCl2 and 40 ppm Ca(HCO3)2 as impurities.

a)40.61 & 63.54 b) 45.04 & 24.69 c) 53.92 & 34.37 d) 64.23 & 31.76

Part B

Attempt any two Questions (2×3=6 Marks)

1. Draw MO Diagrams and of N_2^+, F_2^- and Ne_2^{2+}
2. Explain Zeolite/ Permutit method for water softening in detail.
3. Calculate bond orders CN^-, CO, B_2, O_2^{2+}, N_2^-, O_2^{2-}

Part C

Attempt any two Questions (2×5=10 Marks)

(i) Explain Phase rule based on water system.

(ii) Discuss the %Composition, Manufacturing and setting of cement with equations.

(iii) Write short notes on corrossion and its affecting factors.